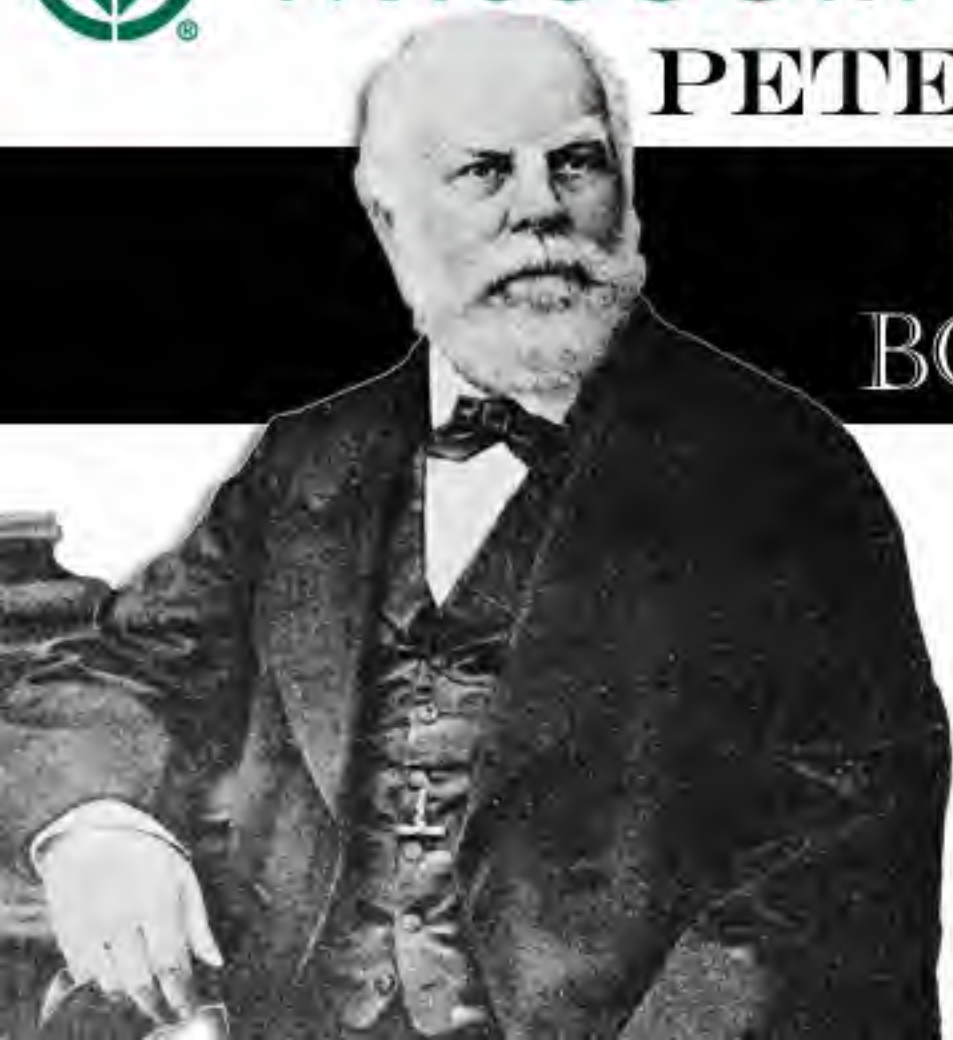


PETER H. RAVEN LIBRARY

GEORGE ENGELMANN
BOTANICAL NOTEBOOKS



Pagination Note:

Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

WISLIZENUS—ATMOSPHERIC ELECTRICITY. 117

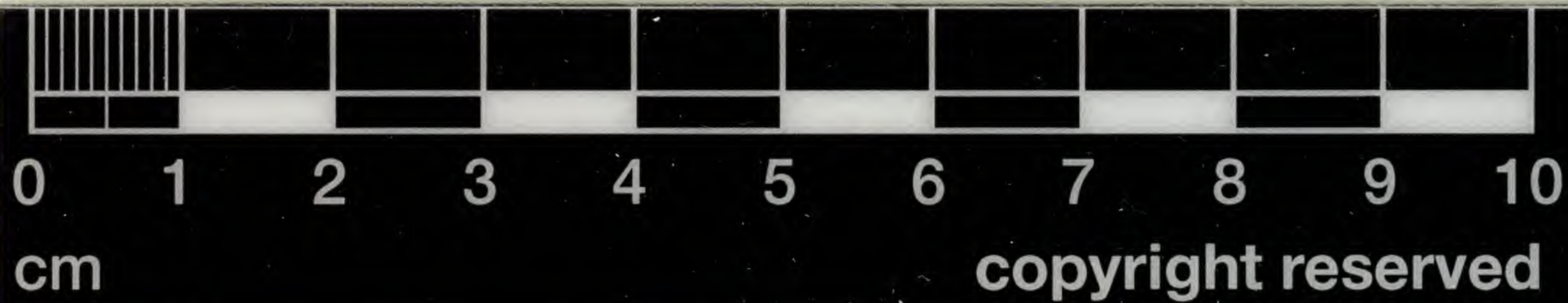
VI. The appearance of negative electricity was connected in

1861. No. times.	1862. No. times.	
30	32	with thunderstorms.
23	28	with rains without thunder and lightning.
20	4	with dry storms (without rain and without thunder and lightning).
4	3	with snow.
1	0	with fog.
78	67	

VII. Relation of Rain and Snow to Electricity.

Rain without thunderstorm was accompanied

By Positive Electri- city.	By Negative Electri- city.	By no Electricity.
In 1861.	In 1861.	In 1861.
In 1862.	In 1862.	In 1862.



copyright reserved



MISSOURI
BOTANICAL
GARDEN

Junonia dichotoma Ell

Aug 14 1861

N. Caroli

Curtis

x60



x10



I can not find the
delicate striulation
and thicker ^{of femur} and
darker colored
appendage smaller

ovoid capsule
shorter than calyx!



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

ALEX. LEITCH,
APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

9206



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

J. Dichotoma

Sept 23 1865

brachycomus

Bayreuth - Hb. H. A. Meyer



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

ALEX. LEITCH,

APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

9207



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

J. dichotoma

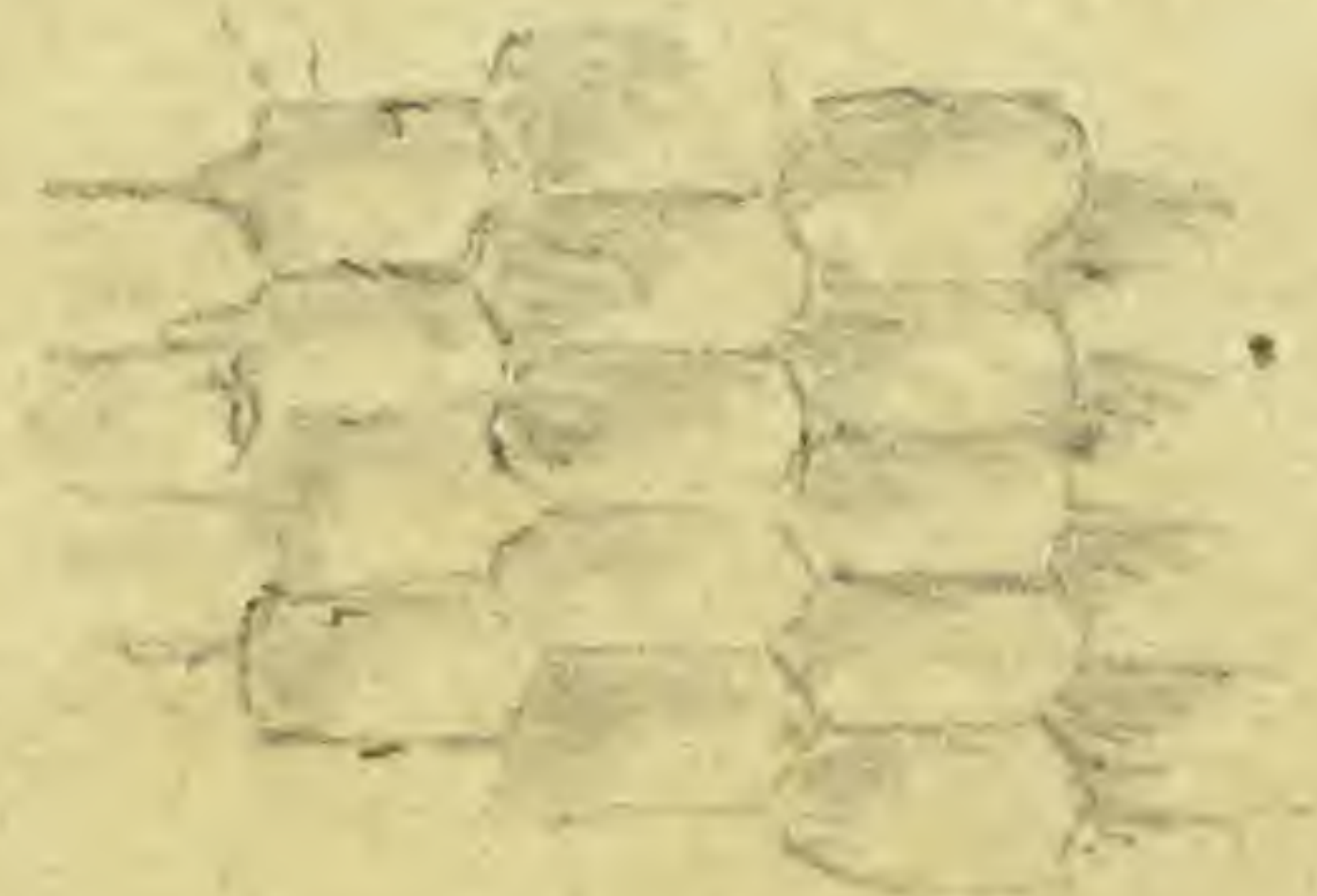
Sept 23 1865

Beyrich - Hb. Berlin

x6.



x10



South Carolina Carter - Hb. Berlin



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

ALEX. LEITCH,

APOTHECARY & PHARMACEUTIST,

Marble Building Cor Fourth & Olive Sts. St. Louis, Mo.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

9208



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

J. dichotomus Ell

Nov 10 1865

Distr. Columbia

M. S. Debb - 116 Gray
1864

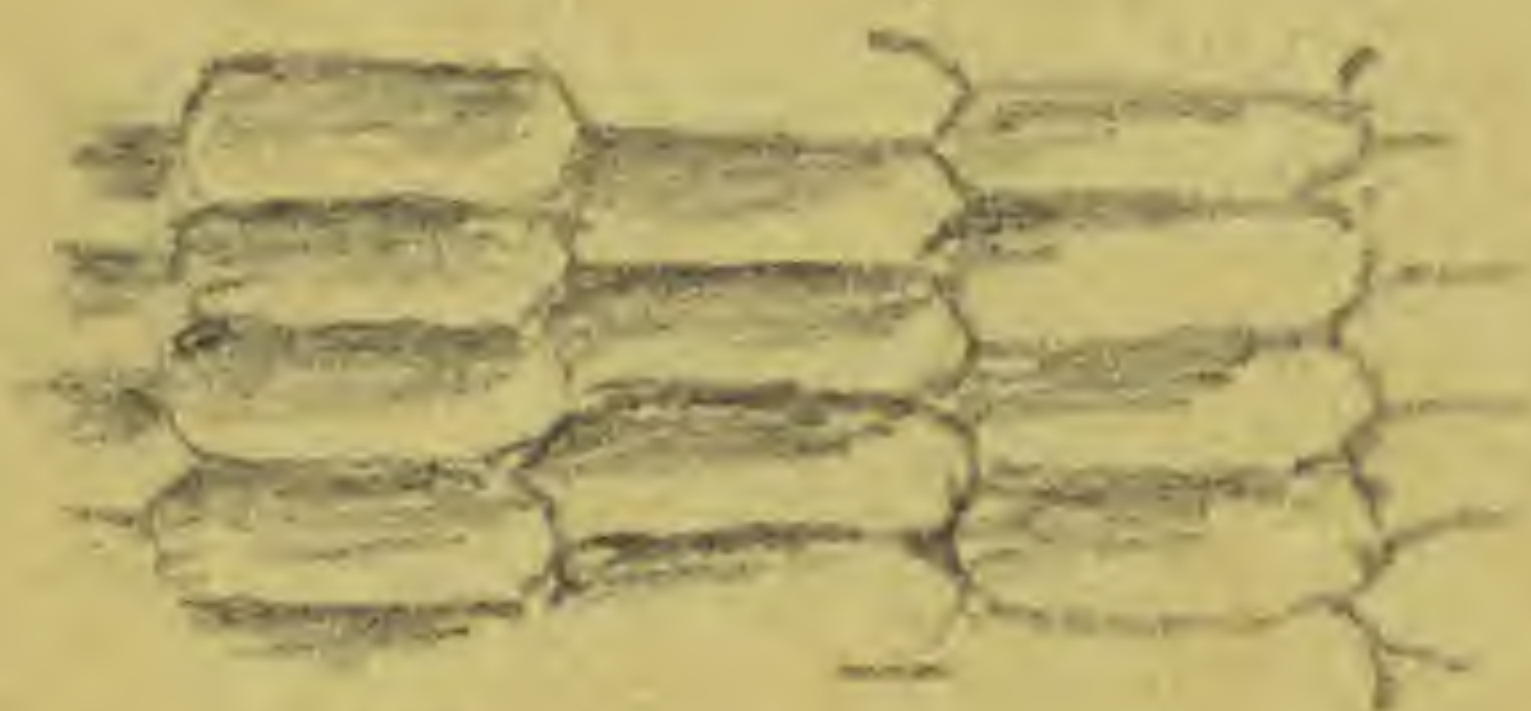
x 60



Florida Chapman



x 150



anther seed

Capsule ovate-globose

obtus. not retuse

micronate



x 10

seed of leaf

very similar to *tenuis*
without longitudinal ribs



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

9209



Alex. Leitch,
APOTHECARY & PHARMACEUTIST,
 COR. 4TH & OLIVE STS., ST. LOUIS.

MISSOURI BOTANICAL GARDEN
 GEORGE ENGELMANN PAPERS



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI
 BOTANICAL
 GARDEN

Junonia dichotomus July 2 1866
var. rufescens
 Los Llanos
 near Mouth of Delaware
 River

x60



unripe seed



cut of leaf



MISSOURI BOTANICAL GARDEN

MISSOURI BOTANICAL GARDEN

MISSOURI BOTANICAL GARDEN

MISSOURI BOTANICAL GARDEN



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI
 BOTANICAL
 GARDEN

ALEX. LEITCH,
APOTHECARY AND CHEMIST,

Marble Building, Cor. Fourth and Olive Streets,

ST. LOUIS, MO.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

X 10

X

Sections of leaves of
J. dichotomus

March 9 1866

extreme point

immediately
above sheath

immediately above
sheath

smallest leaf
seen

Charleston
Herb. Smith

largest leaf seen

(S. Carolina ?)
Boysich



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

ALEX. LEITCH,
APOTHECARY AND CHEMIST,

Marble Building, Cor. Fourth and Olive Streets,

ST. LOUIS, MO.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

Juncus dichotomus

Hb Philad

Gray

Engelm

Washington

S Carolina

Florida

Charleston SC.

N. Carol

Cape of the Delaware

New Jersey

Curtis

Hb Smith

Bebb

Curtis

Chapman

Bebb

(Curtis)

Chapman

Hb Smith

Gray

Curtis

Leidy

C. F. Parker



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN



Alex. Leitch

APOTHECARY & PHARMACEUTIST,

COR. 4TH & OLIVE STS., ST. LOUIS.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

9212



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

M. S. Bebb - letter to Gray July 5 1864

J. dichotomus abundant about Washington.
Its few rigid almost terete leaves near the base of
the slender terete stem and the cymose panicle
mostly exceeding the involucral leaves distinguish
it from *J. tenuis*. When both grow together the
contrast in color of the mature plant is striking.
J. tenuis is pale throughout, *J. dichotomus* remaining
dark green; ripe pods mahogany colour.



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

9213
M. W. ALEXANDER,

South-east corner Fourth and Market Streets,

ST. LOUIS.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS



0
cm

1

2

3

4

5

6

7

8

9

10

copyright reserved



MISSOURI
BOTANICAL
GARDEN

Immun

Aug 17 1865

Camden, N Jersey

Carby 1863



lobes obtuse
equal

chestnut brown

green streaked

in middle



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

ALEX. LEITCH,
APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

h/cb



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

J. Gerardi Lois. Notic. 60
(1810)

82 J. Bottnicus Wahlb. Lapp.
82 (1812)

J. Cocnosus Dickens

118

265-769

TRANS. OF THE ACAD. OF SCIENCE.

interrupted descent and ascent took place from January to December, we find in 1862 some interruptions in the steps of that ladder. The electricity in February, 1862, is about four degrees higher than that of January, April somewhat higher than March, and July is the lowest instead of September in 1861. These trifling irregularities may be accounted for by differences in temperature and relative humidity, and by a greater number of thunderstorms in 1862. January of 1862, for instance, was so unusually rainy, that its relative humidity too was unusually high, diminishing thus electricity. But the general features of distribution of electricity throughout the year are apparent in both years, and we may in that respect divide the twelve months of each year into two or three groups. Computing the months which give the highest electricity and those which give the lowest in each year, we find that in both years the months of January, February, March, April, November and December exhibit the highest, and the months of May, June, July, August, September and October the lowest electricity. The first group gives

The aggregate monthly mean of 71.5 degrees of electricity in 1861	
and 74.6	" " 1862
While the second group gives 29.0	" " 1861
and 25.7	" " 1862

The second group prevailed therefore in 1861, and the 1st



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

9213

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

WISLIZENUS--ATMOSPHERIC ELECTRICITY. 117

VI. The appearance of negative electricity was connected in

1861. No. times.	1862. No. times.	
30	32	with thunderstorms.
23	28	with rains without thunder and lightning.
20	4	with dry storms (without rain and without thunder and lightning).
4	3	with snow.
1	0	with fog.
78	67	

VII. Relation of Rain and Snow to Electricity.

Rain without thunderstorm was accompanied

By Positive Electricity.	By Negative Electricity.	By no Electricity.
In 1861.	In 1861.	In 1861.
In 1862.	In 1862.	In 1862.

January



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

Scarus Gerard

	<u>Hb Philad.</u>	<u>Gray</u>	<u>Engelm</u>
Salina N York		Clinton	
New Haven		Eaton	Eaton
Quincy	mass. Nuttall	W.S.	
Beverly, Mass	Little Jr	Gray	Gray
Essex Co Mass Spruce	Oakes	Oakes	Oakes
Chicago		Vasey	
Flori. (not - Chapm!)	Ware		Ware
New Jersey	Torrey		Canby
N. Carolina	Curtis		Curtis
Long Island	Torrey		

"Black Grass" makes pretty good hay. and is not in
large quantities. Oakes in sheds.



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

9216



ALEX. LEITCH

APOTHECARY & PHARMACEUTIST,

COR. 4TH & OLIVE STS., ST. LOUIS.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

J. Gerardi Loisel
 sub nom. *J. coenosus*

Aug 15 1865

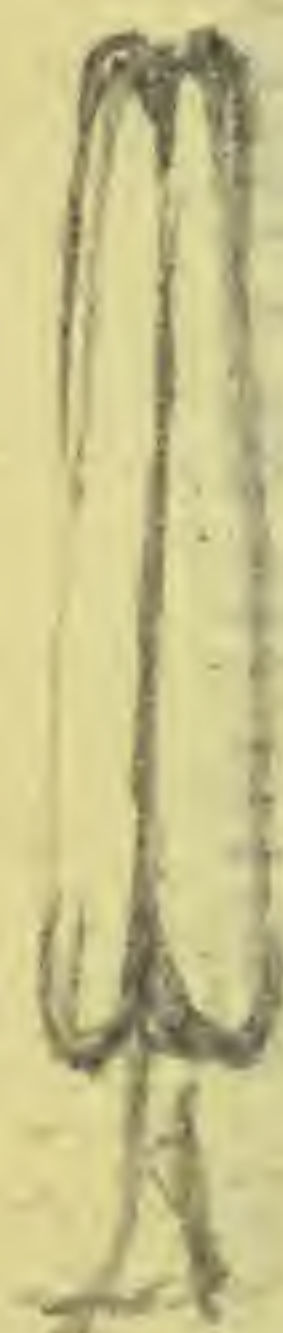
Muscadine Oaks

X60



seed large, thick
 with fewer ribs than
 any examined,
 and very distinct
 cross-triculation

X10



interior sepals
 a little shorter
 than exterior ones



caulis 3 angulatus -
 lenticular compressus
 (New Haven Ct. 1865)



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI
 BOTANICAL
 GARDEN

ALEX. LEITCH,

APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

9217



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

J. Gerardii

Nov 15 1865

Pennsylv. Porter - Hb. Leidy

x60



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

Leitch & Corlies

DRUGGISTS

South West
Corner Fifth
and Market
Streets

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

8126



0

1

2

3

4

5

6

7

8

9

10

cm

copyright reserved



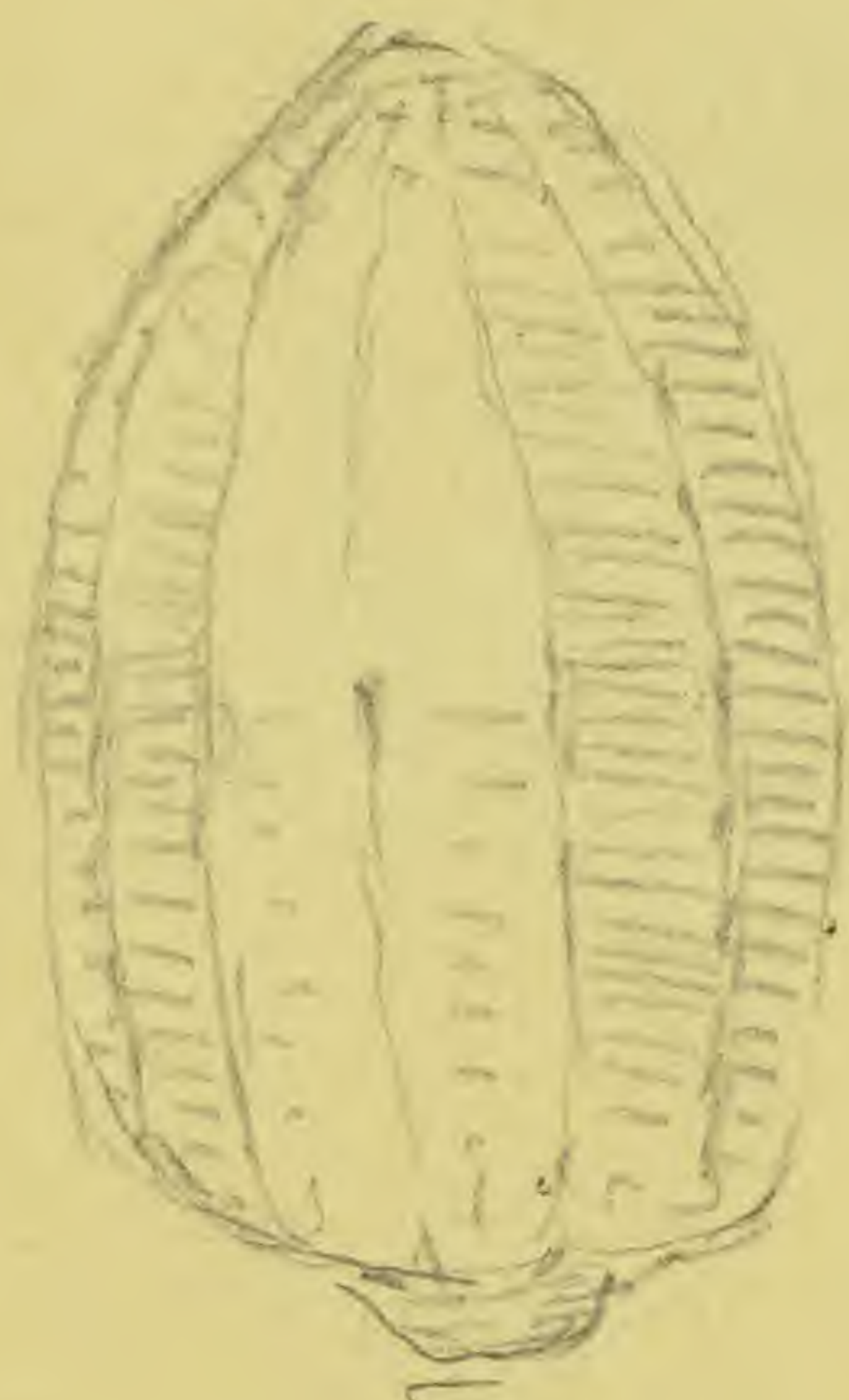
MISSOURI
BOTANICAL
GARDEN

Imms botanica
Nauborn, Germany

Aug 15 1865

1826

x60



x150



not yet open



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN

ALEX. LEITCH,
APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

9219



0 1 2 3 4 5 6 7 8 9 10

cm

copyright reserved



MISSOURI
BOTANICAL
GARDEN